AMENDMENTS TO THE CLAIMS

Claim 1 (Withdrawn): A hot-rolled austenitic iron/carbon/manganese steel sheet, the strength of which is greater than 900 MPa, the product (strength (in MPa) × elongation at fracture (in %)) of which is greater than 45 000 and the chemical composition of which comprises, the contents being expressed by weight:

$$0.5\% \leq C \leq 0.7\%$$

$$17\% \leq Mn \leq 24\%$$

$$Si \leq 3\%$$

$$Al \leq 0.050\%$$

$$S \leq 0.030\%$$

$$P \leq 0.080\%$$

$$N \leq 0.1\%,$$

and, optionally, one or more elements such that:

$$Cr \leq 1\%$$

$$Mo \leq 0.40\%$$

$$Ni \leq 1\%$$

$$Cu \leq 5\%$$

$$Ti \leq 0.50\%$$

$$Nb \leq 0.50\%$$

$$V \leq 0.50\%,$$

the composition further comprising iron and inevitable impurities resulting from the smelting, the recrystallized fraction of the steel being greater than 75%, the surface fraction of precipitated carbides of the steel being less than 1.5% and the mean grain size of the steel being less than 18 microns.

Claim 2 (Withdrawn): A hot-rolled austenitic iron/carbon/manganese steel sheet, the strength of which is greater than 900 MPa, the product (strength (in MPa) × elongation at fracture (in %)) of which is greater than 60 000 and the chemical composition of which comprises, the contents being expressed by weight:

$$0.5\% \leq C \leq 0.7\%$$

$$17\% \leq Mn \leq 24\%$$

$$Si \leq 3\%$$

$$Al \leq 0.050\%$$

$$S \leq 0.030\%$$

$$P \leq 0.080\%$$

$$N \leq 0.1\%,$$

and, optionally, one or more elements such that:

$$Cr \leq 1\%$$

$$Mo \leq 0.40\%$$

$$Ni \leq 1\%$$

$$Cu \leq 5\%$$

$$Ti \leq 0.50\%$$

$$Nb \leq 0.50\%$$

$$V \leq 0.50\%,$$

the composition further comprising iron and inevitable impurities resulting from the smelting, the recrystallized fraction of the steel being equal to 100%, the surface fraction of precipitated carbides of the steel being equal to 0% and the mean grain size of the steel being less than 10 microns.

Claim 3 (Currently Amended): A process for manufacturing a hot-rolled sheet made of iron/carbon/manganese steel, in which:

- a semifinished product is smelted and cast from a steel whose chemical composition comprises, the contents being expressed by weight:

$0.5\% \leq C \leq 0.7\%$

$17\% \leq Mn \leq 24\%$

$Si \leq 3\%$

$Al \leq 0.050\%$

$S \leq 0.030\%$

$P \leq 0.080\%$

$N \leq 0.1\%$,

and, optionally, one or more elements such that:

$Cr \leq 1\%$

$Mo \leq 0.40\%$

$Ni \leq 1\%$

$Cu \leq 5\%$

$Ti \leq 0.50\%$

$Nb \leq 0.50\%$

$V \leq 0.50\%$,

the composition further comprising iron and inevitable impurities resulting from the smelting;

[[- ;]]

- said semifinished product of said steel composition is heated to a temperature of between 1100 and 1300°C;

- said semifinished product is rolled with an end-of-rolling temperature of 890°C or higher;

- a delay is observed between said end of rolling and a subsequent rapid cooling operation, in such a way that the point defined by said delay and said end-of-rolling temperature lies within an area defined by the ABCD'E'F'A plot of figure 1; and

- said sheet is coiled at a temperature below 580°C.

Claim 4 (Original): The process as claimed in claim 3, wherein said semifinished product is cast in the form of thin strip, by being cast between steel rolls.

Claim 5 (Previously Presented): The manufacturing process as claimed in claim 3, wherein, after said coiling, said hot-rolled sheet is subjected to a cold deformation operation with an equivalent deformation ratio of 30% or less.

Claim 6 (Withdrawn): A cold-rolled austenitic iron/carbon/manganese steel sheet, the strength of which is greater than 950 MPa, the product (strength (in MPa) × elongation at fracture (in %)) of which is greater than 45000 and the chemical composition of which comprises, the contents being expressed by weight:

$$0.5\% \leq C \leq 0.7\%$$

$$17\% \leq Mn \leq 24\%$$

$$Si \leq 3\%$$

$$Al \leq 0.050\%$$

$$S \leq 0.030\%$$

$$P \leq 0.080\%$$

$$N \leq 0.1\%,$$

and, optionally, one or more elements such that:

$$Cr \leq 1\%$$

$$Mo \leq 0.40\%$$

$$Ni \leq 1\%$$

$$Cu \leq 5\%$$

$$Ti \leq 0.50\%$$

$$Nb \leq 0.50\%$$

$$V \leq 0.50\%,$$

the composition further comprising iron and inevitable impurities resulting from the smelting, the recrystallized fraction of the structure of the steel being greater than 75%, the surface fraction of precipitated carbides of the steel being less than 1.5% and the mean grain size of the steel being less than 6 microns.

Claim 7 (Previously Presented): A process for manufacturing a cold-rolled austenitic iron/carbon/manganese steel sheet, wherein:

- a hot-rolled sheet obtained by the process as claimed in claim 3 is subjected to at least one cold-rolling followed by an annealing operation, each cold-rolling comprising:
  - cold-rolling said sheet and
  - carrying out an annealing operation at a temperature of between 600 and 900°C for a time of between 10 and 500 seconds, followed by a cooling operation, the cooling rate being greater than 0.5°C/s,
  - the austenitic grain size, before the final cold-rolling step followed by an annealing operation, being less than 18 microns.

Claim 8 (Original): The process for manufacturing a cold-rolled sheet as claimed in claim 7, wherein, after the final annealing, a cold-deformation operation is carried out with an equivalent deformation ratio of 30% or less.

Claim 9 (Withdrawn): A reinforcing element, comprising the sheet of Claim 1.

Claim 10 (Canceled)

Claim 11 (Withdrawn): A reinforcing element, comprising the sheet of Claim 2.

Claim 12 (Withdrawn): A reinforcing element, comprising the sheet of Claim 6.

Claim 13 (Previously Presented): A process as claimed in Claim 3, in which:

a delay is observed between said end of rolling and a subsequent rapid cooling operation, in such a way that the point defined by said delay and said end-of-rolling temperature lies within an area defined by the ABCDEFA plot of figure 1.